(15.)

ANNUAL REPORT

OF THE

TRUSTEES

OF THE

MUSEUM OF COMPARATIVE ZOÖLOGY,

AT HARVARD COLLEGE, IN CAMBRIDGE,

TOGETHER WITH

THE REPORT OF THE DIRECTOR,

1866.

BOSTON:
WRIGHT & POTTER, STATE PRINTERS,
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SENATE..... .....No. 52.

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Commonwealth of Massachusetts.

Boston, January 30, 1867.

To the Honorable the Senate and House of Representatives.

The Trustees of the Museum of Comparative Zoölogy respectfully present the Annual Report of the Director for the past year, marked [A.]

The paper annexed, marked [B,] contains a list of the Trustees, their officers and committees, for 1867.

For the Trustees,

WM. GRAY, *Secretary.*

[A.]

ANNUAL REPORT

Of the Director of the Museum of Comparative Zoölogy on resuming his duties in 1866.

By Louis Agassiz.

As the work of the Museum for the past year was conducted by the assistant in charge, A. Agassiz, I submit his report as a part of mine, referring to it, in connection with the reports of the other assistants, for an account of the active operations of the Museum during the closing academic year.

EIGHTH ANNUAL REPORT,

By Alexander Agassiz, *Assistant in Charge.*

The very large collections obtained by the Brazilian Expedition, so generously fitted out by Mr. Thayer, while they have added greatly to the value of the Museum, have necessarily impeded the regular work of the institution during the past year. The invoices arrived so frequently, and the mass of new material was so great, that the labor of all the assistants in the Museum was scarcely sufficient to keep pace with the influx of specimens. It was therefore necessary to interrupt, for a time, the ordinary preparations for exchanges. Fortunately we were not largely in arrears, and as none of our more recent exchanges have suffered any delays we are not indebted to other institutions for any considerable amount. The departments of conchology and entomology suffered less disturbance, and in spite of the numerous interruptions, the accompanying reports will show a degree of activity in that part of the work which compares favorably with that of previous years. The other departments, especially those of vertebrates and radiates, were, however, necessarily neglected, from the causes above stated. As the Museum had not the means of engaging additional aid to meet the unusual exigencies, the assistant in charge was obliged to devote his time almost exclusively to the care of the

immense alcoholic collections from Brazil, which required immediate attention to secure them against loss. Indeed, he would have been quite incompetent to the task single-handed, and has to thank Colonel Lyman who, during six weeks, worked with him several hours daily, as well as Mr. William James and Mr. Shaler, for their most efficient assistance. But for their co-operation it would have been impossible to put the bulk of the collections in safety before the beginning of warm weather, during which this kind of work is necessarily suspended. With their assistance no less than 323 kegs and barrels have been transferred to fresh kegs, with fresh alcohol, and 75 boxes of dry specimens assorted since the beginning of this year. Mr. Sceva also unpacked the collection he brought home himself, and Mr. Hartt did the same for the collections which arrived at the time of Professor Agassiz's return. This leaves still about sixty kegs and cans yet unpacked, and which, although received before the date of this Annual Report, cannot be numbered among the additions of this year, which stands unrivalled in the history of the Museum. An idea of the magnitude of our new stores can be formed from the fact that in the class of fishes alone no less than 50,000 specimens were actually counted, representing over 2,200 species, the majority of which, say 2,000, are probably new to science and to our collections. This estimate does not include the smaller specimens, less than two inches in length, which also number many thousands. All classes did not share in proportion, but the fishes and reptiles alone form additions which might be the basis of a large museum.

The different departments have remained in charge of the same assistants as during the past year; Messrs. Uhler, Anthony and Shaler having the care of the articulata, mollusca, and palæontology, while the remaining classes have been under the charge of A. Agassiz.

During the past year the second number of the Illustrated Catalogue, the North American Acalephæ, by Mr. Alexander Agassiz, has been published and distributed abroad, through the agency of the Smithsonian Institution. It has also been sent in this country to most of the principal libraries, societies and individuals whom the volume might interest. The distribution of the first number, among individuals and scientific societies, has already borne fruit in numerous additions to our

library sent in acknowledgment. If we can continue our publications with anything like a moderate regularity, we shall, no doubt, enlarge the circle of our usefulness and obtain valuable returns ourselves. In this connection I would state that arrangements have been made with the United States Coast Survey, through the courtesy of Professor Bache, to incorporate into the next number of the Illustrated Catalogue Professor Agassiz's Report on the Coral Reefs of Florida, originally prepared for the use of the Coast Survey. This report is accompanied with plates drawn by Mr. Sonrel, and as it illustrates most of our common North American corals, we can readily, by adding a few illustrations, publish an exhaustive catalogue of the polyps of the east coast of our continent. This latter part Colonel Lyman has undertaken to finish, and it is hoped that the third number of the Catalogue may be published near the close of the year 1867. This will probably exhaust the sum so generously placed at the disposal of the trustees by the legislature, and it is earnestly to be wished that hereafter some additional means may be provided to continue these catalogues.

The usual lectures on Zoölogy to the scientific students and others, were given by the assistant in charge during the first term of the past academic year. Mr. Shaler delivered the lectures on Geology in the second term. Three special students availed themselves of the privileges of the Museum during the year.

The cellar, owing to our large accessions, has now become so crowded that the space formerly devoted to unpacking is almost given up to storage; we shall soon come to the end of the few feet of available room left there and be obliged to encroach upon the exhibition and working rooms. The kegs containing our collections have been thoroughly overhauled and repainted and filled up, and the general condition of the alcoholic collection is as satisfactory as we can expect with our present facilities.

To accommodate the dry collections, floors have been laid across the galleries of the two eastern rooms, where lighter material may be stored until better arrangements can be made.

The Museum is indebted for facilities and assistance in forwarding specimens to their destination, to the State department

and Navy department at Washington; to the Pacific Mail Steamship Company, who offered the hospitality of their fine steamer, the Colorado, to the Brazilian Expedition on its way out; to Messrs. Wells, Fargo & Co.; to Messrs. Bishop & Co., who have forwarded the whole of the Amazonian collection from Para to New York, free of all charges; and to the Brazilian and North American Steam-ship Company for the free passage of members of the expedition, and for taking charge of all the collections which had accumulated at Rio. To Messrs. H. C. Brooks & Co., Messrs. C. W. Brooks & Co., Mr. A. V. Sartori, Mr. Martin, Messrs. Isaac Taylor & Co., for their interest in forwarding exchanges to and from New Zealand. To the Portuguese and Italian consuls at Boston and New York, to the Tudor Ice Company, Mr. George N. Davis of Rio Janeiro, and to the Smithsonian Institution for the distribution of our publications.

The library is principally indebted for additions to the Copenhagen Academy and to Professor Agassiz. But few new purchases have been made with the Gray fund, the income of the past year having defrayed a portion of the cost of the Konink collection. Casts of some of the larger fossils were obtained from Dr. Kaup and Prof. H. A. Ward of Rochester.

The Museum is indebted to the following individuals for their donations and for their interest in forwarding our objects. I mention here the larger collections only, or those of special interest; the other donations will be found in their respective departments.

Beside the collections sent home by the Thayer Expedition, I would name the donations of Mr. Chas. Wright of Cuba, of Dr. Davie of New Zealand, of Dr. Duchassaing, Dr. Schramm, Dr. Fritz Muller, the invoice from the Smithsonian Institution, Mr. Jonathan Russell, and Dr. John L. Leconte. The exchanges have been continued as far as possible with the same institutions as before, and a correspondance of the same kind opened with several others. We have to mention especially the University Museum of Copenhagen, the Jardin des Plantes, where Professors Milne Edwards and Dumeril are aiding us in procuring by exchange invaluable additions to our stores. Professor Gastaldi, Dr. Kaup, Professor Panceri, Professor J. V. Barbosa du Bocage, Professors Keferstein and Haeckel, the Vienna Museum, through Dr. Redtenbacher, to whom the Mu-

seum owes valuable fishes from Spain and the Danube, and to the Colonial Museums of Melbourne, Sydney, Christchurch and Otajo, with whom, thanks to Professors MeCoy, Krefft, Haast and Heetor, we arc now in eonstant relation. We have continued our invoiees to Caleutta, through Mr. W. Theobald, Jr., and to the South Afriean Museum from whieh Professor Layard has sent us valuable colleetions. I have to mention as exehanging with the Museum also, the Chicago Academy of Scienees, Professors Coechi and Seguenza, and Messrs. Appelius, Rigaeei, McAndrew, Morelet, Angas and Terver.

Large invoiees have been sent for examination to several institutions. One most important object of the Muscum is to stimulate original research, and for this purpose we are ready, whenever it is possible, to furnish materials for study, by forwarding to other investigators, such portions of our eollections as are not yet arranged.

To this end our whole eolleetion of Sturgeons was sent to Professor Dumeril at the Jardin des Plantes, our Sipunculoids to Professor Keferstein, and our magnificent collection of Holothurians, to Mr. Selenka, who has been making a special study of these animals in the Göttingen Muscum under the direetion of Professor Keferstein. To Dr. E. Cope of Philadelphia, and Mr. Gill of Washington, speeimens have also been sent for a similar object. The Museum has also eontinued as far as possible the invoices of live stoek to the Jardin des Plantes. Many speeimens have been sent from the Brazilian Expedition, but unfortunately a great part were lost on the passage to Europe.

SPECIAL REPORT OF THE DIRECTOR.

On resuming now my position as Director of the Muscum, I deem it proper to make some remarks eoncerning its present eondition and prospects. And first allow me a few words upon my management of its affairs sinee its organization.

When the plan of a great Museum in eonneetion with Harvard University was first suggested, nobody knew exactly what should be done and still less what could be done. I was intrusted with the duty of preparing a plan for its foundation, and yet there was no definite standard by which to measure its

extension and its aims. Under the circumstances, it seemed best to propose the erection of a small part of such a building as would be necessary for a great Museum, and to apply the larger part of our resources to the increase of the collections and the internal improvement of the institution. This policy was sanctioned by the Board of Trustees, and the consequence is that our building is now full to overflowing; part of the rooms which might have been made exhibition rooms, are for the present transformed into storerooms,—and by far the largest and most important portions of our collections are packed away in barrels and boxes,—rendering the use of specimens for study very laborious, nay, almost impossible, owing to the loss of time in finding what is wanted. In fact, the whole Museum is now rather a store-house, than a well arranged scientific collection.

Such a result may seem to show bad management, and might be fairly criticized, had our primary object been that of forming a museum for public exhibition and display. But the tacit understanding of all those concerned in its foundation, has been to aim at the building up of a scientific institution, which should rival the most extensive establishments of that kind in Europe. Viewed in that light, the immense accumulation of material now stored up in our building may be considered not only as a great scientific fortune fully realized and our own, but even as a source of ever increasing scientific wealth, if we succeed in preserving the whole and making it available for exchanges. At present, it is like an immense capital lying unused, and we lack the means to put it out at interest, to distribute our riches and make their value felt.

The difficulty inherent in the management of so large an estate with insufficient income, had suggested to me the propriety of resigning the trust into younger and more active hands; but I find that by so doing I could not change the existing state of things, and I therefore propose to retain my present duties and obligations in the Museum till better times come.

Permit me now, summarily, to state what are our chief possessions. In the present state of the collections, it would be hardly possible to give a just estimate of the number of species from the different classes of the animal kingdom contained in them, still less to enumerate the specimens. The collections

have increased so rapidly, that it has been impossible to carry forward the catalogue at the same rate. I have fostered certain branches of Natural History in our Museum to the disadvantage of others, and I have done this intentionally, as I think it a mistake for establishments of this kind to repeat each other. They should rather aim at filling each other's blank spaces, each one doing as far as possible what the other has left undone. Thus I have made no attempt to form a collection of birds which might compete with that of the Academy of Natural Sciences in Philadelphia, or with that of the Smithsonian Institution at Washington, or that of the Boston Natural History Society. It would have been an unwise expenditure of our means, and would not have added materially to the resources of naturalists in that department, already so amply provided for. Our Ornithological collection has therefore remained small, as is also that of Mammalia. Our collection of Reptiles, however, is probably the largest in the country, and may compare favorably with those of the Old World. Our collection of Fishes far outstrips any now existing. If the published estimates of those institutions can be taken as a safe guide, it exceeds those of the British Museum and the Jardin des Plantes taken together. We actually possess more than nine thousand species of this class of vertebrates, and so great a number of specimens as to afford material for original investigation for years to come. None but the practical naturalist know what a privilege it is to have an unlimited number of specimens for the comparative study of the structure of animals. With only one or two specimens at command, the student comes to the end of his resources with his problem half solved.

My acquaintance with Entomological and Malacological collections being less complete, does not enable me to make similar comparisons of our collections of Articulata and Mollusks with those of other museums. For information concerning those departments, I therefore refer to the special reports of Messrs. Uhler and Anthony, who have shown great ability and industry in bringing these collections into order.

Mr. Shaler has also been very active in arranging the fossils. It will however require many years and greatly increased means to classify and assort this part of our collections which has great scientific value. The appointment of another assist-

ant for the arrangement of the fossil Mollusks is especially desirable. It has not been possible for me as yet to put in order even the fossil fishes, notwithstanding my own familiarity with this class.

Our collection of Radiates constitutes one of the most remarkable features of our Museum. Taking into consideration the fossil as well as the living representatives, I believe no museum is richer in this type. Their arrangement is nearly complete, and had we room for a more complete exhibition of them they would add greatly to the interest and attraction of our public rooms.

In closing these remarks, it is hardly necessary for me to add that the material results of the scientific exploration of Brazil, from which I have lately returned, have been bodily incorporated in the Museum, and now form one of its most important possessions. This expedition, fitted out with the greatest liberality and foresight by Mr. Nathaniel Thayer, has provided our institution with a vast store of the most valuable specimens from all the classes of the animal kingdom. Allowed to take with me a corps of six assistants, already trained in the work of the Museum, and our party being also strengthened by the addition of six volunteer assistants, I was able to lay out a scheme for a thorough exploration of large tracts of country in Brazil, parts of which had not yet been visited by zoölogists. It is but justice to those who have accompanied me to state here what has been their share in the work of the expedition.

One of my principal objects during the whole journey was to secure accurate information concerning the geographical distribution of the aquatic animals throughout the regions we visited. Upon this subject we had little precise knowledge,—even the best known among the fishes, reptiles, &c., of the Brazilian waters being entered in our zoölogical records simply as living in Brazil, or more generally still as found in South America. As the distribution of species lies at the very foundation of the question of their origin, I have aimed at ascertaining as far as possible what are the areas and limits of their localization. To this end not a specimen has been brought home by our party without a special label attached to it, or to the packages containing a number of specimens, with the name

of the locality from which it was obtained inscribed upon it, and the name of the collector, as farther security for the accuracy of the statement.

With a view of comparing the inhabitants of the different points in the course of one and the same basin of fresh water, I sent out separate parties to explore the head waters of the Rio Doce, Rio Mucury, Rio Jequitinhonha, Rio das Velhas and Rio San Francisco, in the interior of Brazil, while others were examining their lower course along the Atlantic coast. The companies sent to the head waters of these streams consisted of Messrs. Orestes St. John, J. A. Allen, Thos. Ward and G. Sceva, while Messrs. Hartt and Copeland visited the sea-coast from Rio to Bahia, and made numerous excursions up the different streams which empty their waters along that coast.

At the time these parties started, Messrs. N. Dexter and S. V. R. Thayer were sent to make special collections in the neighborhood of Bahia. Here they were received with the greatest hospitality by Mr. Antonio de Lacerda, to whom, on this and many other occasions I was indebted, for the warmest interest and most efficient co-operation in all the affairs connected with the expedition. They afterwards joined me on my way up the coast, when, in company with Major Continho, I visited various stations along the shore, stopping at Pernambuco, Maceio, Parahyba, Natal, Ceara, Maranhaon and Parà. Some of these places we visited twice, and the next year I made prolonged stays at Ceara and Parà on my return from the Amazons.

During the three months we passed in and about Rio, on first arriving, all the members of the expedition were engaged in collecting the natural products of the sea and adjoining country,—making excursions in various directions to obtain as complete a knowledge as possible of the characteristic fauna of the province of Rio de Janciro,—following the Don Pedro Railroad, and making geological surveys along its route,—collecting fishes in the Rio Parahyba, and visiting the more accessible portions of the adjoining province of Minas Geraes. In these excursions Mr. Anthony was especially busy in collecting the land and fresh water Mollusks; and I was indebted to my friend Dr. Cotting for a collection of fresh water fishes from the vicinity of Petropolis. Messrs. Allen, Dexter and Thayer attended to the collections of mammalia and birds, and Messrs.

James and Ward to that of insects. In the meantime, Mr. Burkhardt was engaged in drawing from life all the fishes which could be obtained.

The party which I have already mentioned as starting together for the interior, Messrs. St. John, Allen, Ward and Sceva, divided their forces after a time. Mr. Sceva remained in the vicinity of Lagoa Santa, to seek for fossil remains in the regions made famous by the researches of Dr. Lund, and afterwards returned to the province of Rio de Janeiro, establishing himself at Canta-Gallo, where he made a large collection of skeletons. Mr. Ward extended his journey across the whole continent to Parà, passing from the middle course of the Rio San Francisco into the basin of the Tocantins, which he descended to the Amazons. Mr. St. John passed from the San Francisco into the basin of the Parahyba, which he followed as far as Theresia, whence he crossed to Caxias, followed the valley of Piauhy to Maranhaon on the coast, and finally joined me at Parà, where we had an opportunity of connecting our geological results, mine in the valley of the Amazons, his in the valley of the Piauhy, on the spot. Mr. Allen left his companions at the San Francisco, and returned across the country to Bahia, taking the collections under his charge. He devoted his attention chiefly to birds, of which he made a large alcoholic collection, besides preparing many skins. During this time Messrs. Hartt and Copeland undertook an entirely different exploration in the eastern portions of the provinces of Rio de Janeiro, Spiritu Santo, and the southern part of the province of Bahia. Their collections were very satisfactory, and Mr. Hartt's geological report was exceedingly novel and interesting. While these parties were engaged as above stated, I started for the Amazons with the other members of the expedition, viz., Messrs. W. James, N. Dexter, W. Hunnewell, S. V. R. Thayer, and J. Burkhardt. To these were added Major Coutinho, a young Brazilian officer belonging to the government corps of engineers, and detailed by the Emperor to accompany us. His assistance was invaluable to us throughout the journey, and he became my intimate associate in all my scientific undertakings in Brazil. We were also joined by Mr. Bourget, a French naturalist established in Rio, whose services I engaged as preparator during my residence in the region of the Amazons; and

at Parà, Senhor Pimenta Bueno directed one of the officers of the Amazonian Steamship Company, Mr. Talisman, to accompany us. Once in the waters of the great river, I divided my forces, in order to survey simultaneously various parts of this vast fresh water system, wishing to ascertain how far the distribution of its inhabitants was local, or whether the same species might be found at the same moment in different parts of the main stream and its tributaries. This precaution led to results which amazed me, though I was in part prepared for it by my knowledge of other aquatic faunæ. Not only did I find the number of species in these waters exceeding by thousands all former estimates, but I found their localization so precise and definite, that new combinations occurred at given intervals along the main stream, while every forest lake, and all the lesser water-courses, had their special faunæ. I neglected no opportunity of verifying the accuracy of my results, visiting the same regions at different seasons of the year, repeating my collections, that I might have the fullest means of comparison, and, as I have said, stationing my parties at considerable distances, in order that, by making simultaneous collections, we should ascertain what was the range of the species. All my young friends—and those I had with me on the Amazons were chiefly volunteer assistants—gave me most hearty and efficient co-operation. Besides rendering much important aid in the general work, and making special collecting excursions on the Rio Tapajos and the Rio Negro, Mr. Dexter prepared a very valuable collection of birds. In his voyage up the River Tapajos he was accompanied by Messrs. James and Talisman; on that of the Rio Negro, by Mr. Talisman alone. Mr. James, in company with Mr. Talisman, ascended the River Içа and the River Jutahy, and brought down very valuable additions to our fishes, while Mr. Bourget at the same time was employed in making collections in the River Javary and the Solimoens about Tabatinga. Besides these special excursions, all my assistants, including Mr. Thayer and Mr. Hunnewell, had their separate stations at different times, and made very important local collections. Messrs. James and Hunnewell at Obydos, Messrs. Thayer and Bourget at Cudajas, Mr. James at Manacapuru, Mr. Bourget at Santarem. To Mr. Hunnewell, beside his general assistance as a member of the working corps, I am

indebted for a series of photographic portraits of Indians, and of the various cross-breeds arising between Indians, whites and blacks, taken by him at Manaos. Mr. Thayer was also very successful in collecting at Serpa and at Lago Alexo. Although zoölogical research and the forming of collections for the Museum were the chief objects of my journey, I also made as complete a geological survey of the Valley of the Amazons as was possible under the circumstances. As my results in this direction do not, however, especially affect the interests of the Museum, I need enter into no details concerning them here. I should, however, add, that I made the largest collection ever brought together of palm woods and fruits, bringing away many complete stems of palm trees, or, where this was not possible, fragments large enough to show their structure, and preserving the fruits in alcohol. This is especially valuable in a Comparative Museum like ours, inasmuch as we seek to combine the past history of the organic world with its present condition, and there is no family of plants now existing so illustrative of the ancient forests as the palms.

In conclusion I would state, that this Brazilian Expedition, fitted out and sustained by individual generosity, was treated as a national undertaking, and welcomed by a national hospitality. From the moment of our landing in Rio de Janeiro, the government offered me every facility for my undertaking. Nor was this an empty civility. We found ourselves guests in every public conveyance, and our large collections were constantly transported free of freight. On our arrival at Parà, the Amazonian Steamship Company, through their agent, Mr. Pimenta Bueno, to whom my companions and myself were constantly indebted for the warmest hospitality and the most efficient aid, placed a fine steamer, furnished with everything needed by the whole party, at my disposition for one month. Returning somewhat later from the Solimoens or Upper Amazons, I found a steamer of war awaiting me at the mouth of the Rio Negro, which had been sent up by order of the Emperor for my use during the remainder of my stay in the waters of the Amazons. Nothing could exceed the courtesy of the commander and officers, or the hospitality with which we were treated during the many weeks we passed on board the

"Ibicuhy." Nor was this all; canoes and men were provided for me whenever I required them, and wherever I arrived, I found that directions had been given to the local authorities to furnish me with whatever I required for my scientific objects. This generosity was the more striking, since it was offered at a time when, on account of the war, the government required all its resources. With such facilities, it is not strange that we should have made larger collections than have ever been got together in the same time before. I cannot close without expressing my gratitude for the liberality of our own countrymen towards the Expedition. From the moment when the Pacific Mail Steam-ship Company offered us, through the courtesy of their President, Mr. Allen McLane, the hospitality of their magnificent ship, the Colorado, to the moment when, at the invitation of Mr. Garrison, we returned as guests on board the vessels of the Brazilian North American Steamship Company, we received the most cordial and ready aid from American merchants at the different ports, in forwarding our large collections. Especially am I indebted to Mr. James Bond, our consul at Parà, and agent for the house of James Bishop & Company, to Messrs. Hitch and Rollins, of the house of Henry Foster & Company at Pernambuco, and also to Messrs. Wells, Fargo & Company, in New York.

With all these accumulated treasures safely under our roof, my first duty is to make every possible exertion for their preservation, till we shall have the means to work them up, to classify them systematically, and to render them equally accessible for special scientific investigation, and for the gratification and improvement of the casual visitors who daily come to the Museum. Such a final arrangement must necessarily be the work of time, and demands large expenditure, for which there is as yet no provision. To give room merely for the exhibition of the collections now stored in our working rooms, attics and cellars, (or for such partial exposition of them as would fairly illustrate their scientific value and significance,) we should be obliged to complete the northern wing of the Museum, of which the present building represents only two-fifths. This can hardly be done under one hundred thousand dollars, and it is, after all, but a small part of the work. The identification of specimens, their division and proper distribution, in short the

scientific research needed to make this institution what I have hoped to make it, a centre of original investigation and intellectual progress, would occupy twice as many assistants as are now engaged in the Museum during five or six years. The salaries of such assistants, even if paid but very moderately, together with the necessary outlay in glass jars, alcohol and other material means essential to such work, would no doubt involve the expenditure of another hundred thousand dollars. The present resources of the Museum are barely sufficient to carry on its regular, active operations in the most meagre way. They do not suffice at all for the exigencies arising from its growth and increase. This statement may seem to make large and unreasonable demands upon the future; yet I trust the time is coming when, after the calls upon the nation for the final consolidation of her restored unity are answered, the thoughtful and far-sighted may still find the means to do for the arts of peace, and for the culture of the people, something commensurate with the increase of our material prosperity, wealth and power. Especially do I hope this for Massachusetts, whose intellectual strength is and has always been her proudest possession. By this, rather than as a great commercial centre, or as a rich agricultural State, does she hold her distinguished place in the republic, and therefore I believe it will be her wisest, as well as her noblest policy, to foster her institutions of learning. I speak not especially for that in which I am personally interested, but for all. If I am ambitious for our Museum at Cambridge, it is only that it should aim at a high order of intellectual work, and in so far do its share in raising the standard of a liberal culture. If some are inclined to criticize the costliness of such establishments, I can only answer, that it is with museums as with all living things; what has vitality must grow. When museums cease to grow, and consequently to demand ever-increasing means, their usefulness is on the decline.

Report on the Vertebrates, by ALEX. AGASSIZ.

Nothing of special importance has been done for the Vertebrates, besides the general preservation of the collection, except to finish the cataloguing of the collection of Sharks and Skates,

begun by Prof. Agassiz, before his departure for Brazil. A few exchanges were made of some of our more common Mammals, Birds, Reptiles and Fishes; but the care of the Brazilian collection of Fishes, demanded so much time that little else could be done, besides attending to it. A considerable number of skeletons of Birds and Mammals have been received through our exchanges, and as soon as assistants can be obtained, we shall have as duplicates, numerous species of Birds, Mammals and Reptiles to dispose of as Skeletons for our exchanges from the Brazilian collections.

The following donations were received :—

MAMMALS.

GULICK, REV. J. T. 2 Bats, Japan.

Thayer Expedition.

Rio de Janeiro, to wit, 60 specimens, 29 species. Dexter, Allen and James.

Para, 3 specimens, 3 species. Agassiz and Bourget.

Porto de Moz, 2 specimens. Agassiz and Bourget.

Tajapuru, 2 specimens. Agassiz and Bourget.

Gurupa, 4 specimens, 2 species. Agassiz and Bourget.

José Assu, 2 specimens. Agassiz and Bourget.

Ueranduba, 2 specimens. Major Coutinho.

Jutahy, 2 specimens. James and Talisman.

Manacapuru, 1 specimen. James.

Tabatinga, 1 specimen. Bourget.

Cudajas, 3 specimens, 2 species. S. V. R. Thayer and Bourget.

Teffé, 3 Mantees. L. Agassiz.

Teffé, 1 Dolphin. L. Agassiz.

Teffé, 7 specimens, 5 species. L. Agassiz.

Bahia, 10 specimens, 5 species. A. de Lacerda.

Rio Negro, 12 specimens, 1 species. N. Dexter.

Maues, 6 specimens, 4 species. L. Agassiz.

Amazons, 8 specimens, 6 species. Expedition.

Lagoa Santa, 14 specimens, 14 species. G. Sceva.

Rio dos Velhas and Rio San Francisco, 3 specimens. J. A. Allen and St. John.

Silva and Lake Saraca, 3 specimens, 3 species. S. V. R. Thayer.

Rio Puty, 1 specimen. St. John.

Cameta, 5 specimens, 5 species. Major Coutinho.

Obydos, 4 specimens, 4 species. James and Hunnewell.

Santarem, 1 specimen. Bourget.

Exchange.—Three Received.

KAUP, Dr. 4 specimens, 4 species.
THEOBALD, W., Jr. 12 specimens, 10 species.
Total received, 182 specimens, and about 75 species.

Sent in Exchange.

KAUP, Dr. 13 species.
HAAST, Dr. 15 species.
SALMIN, C. L. 1 species.

BIRDS.

DAVIE, W. P. 1 Apteryx, New Zealand.
EAMES, JAMES M. 1 Sand-Hill Crane.
SLOCUM, W. H. 1 Sand-Hill Crane.

Thayer Expedition.

Masseio, 4 specimens, 3 species. Hartt and Copeland.
Rio and vicinity, 300 specimens, 127 species. Members of the Expedition.
Lagoa Santa, 9 specimens, 8 species. G. Sceva.
Amazons Valley, 216 specimens, 88 species. N. Dexter.
Maues, 4 specimens, 2 species. L. Agassiz.
Rio Negro, 3 specimens, 3 species. N. Dexter.
Bahia, 75 specimens, 20 species. A. de Lacerda.
Teffé, 22 specimens, 22 species. L. Agassiz.
Lago Alexo, 3 specimens, 3 species. S. V. R. Thayer.
Manaos, 105 specimens, 30 species. L. Agassiz.
Cudajas, 10 specimens, 10 species. S. V. R. Thayer and Bourget.
Manacapuru, 3 specimens, 3 species. W. James.
Ueranduba, 1 specimen, 1 species. Major Coutinho.
Tapajos, 50 specimens. 20 species. Dexter and James.
Lago de Maximo, 17 specimens, 10 species. L. Agassiz.
Montalegre, 1 specimen, 1 species. L. Agassiz.
Lake José Assu, 4 specimens, 4 species. L. Agassiz.
Rio das Velhas and San Francisco, 21 specimens, 18 species and 40 eggs. Allen and St. John.
Tajapuru, 4 specimens, 4 species. L. Agassiz.
Porto de Moz, 7 specimens, 2 species. L. Agassiz.
Pará, 7 specimens, 7 species. L. Agassiz and D. Bourget.
Campos, 45 specimens, 20 species. Hartt and Copeland.
Juiz de Fora, 75 specimens, 45 species. Agassiz and Whitaker.
Sao Paolo, 93 specimens, 32 species. Hartt and Copeland.
Sao Fidelio, 25 specimens, 10 species. Hartt and Copeland.

St. Thomas, W. I., 20 specimens, 15 species. 201 specimens eggs. J. A. Allen.

Brazil, 24 specimens, 10 species. Dr. Milcher.

Santarem, 3 specimens, 3 species. Agassiz and Bourget.

Obydos, 10 specimens, 10 species. James and Hunnewell.

Jatuarana, 6 specimens, 4 species. M. Naves.

Rio. Puty, 20 specimens, 10 species. St. John.

San Goncallo, 100 specimens, 25 species. St. John.

Cameta, 100 specimens, 40 species. St. John.

Silva and Lake Saraca, 2 specimens, 2 species. S. V. R. Thayer.

Total by donations, 1,462 specimens, about 350 species.

Exchanges Received.

Haast, D. J. 70 species, New Zealand.

Kaup, Dr. 23 specimens, 20 species, East Indies, principally.

Davis, W. M. 27 specimens, 14 species, N. Jersey.

Total for exchange, 120 specimens, 104 species.

Total received, 1,582 specimens, about 450 species, Birds.

Sent in Exchange.

Haast, Dr. 4 specimens, 3 species.

Kaup, D. 5 specimens, 4 species.

Total, 9 specimens, 7 species.

Reptiles.

With the exception of a single Snake presented by the Rev. J. T. Gulich, from Japan, the donations were confined to the Thayer Expedition. Specimens from this expedition were received from the following localities:—

Içá; W. James and Talisman. 3 specimens, 2 species.

Jutahy; W. James and Talisman. 2 specimens, 1 species.

Ueranduba; Major Coutinho. 4 specimens, 2 species.

Manaos; L. Agassiz and Bourget. 27 specimens, 16 species.

Lago de Maximo; L. Agassiz. 6 specimens.

Montalegre; L. Agassiz. 6 specimens.

Tapajos; Dexter and James. 12 specimens.

Villa Bella; L. Agassiz. 1 specimen.

Cudajas; Thayer and Bourget. 101 specimens, 7 species.

Santarem; D. Bourget. 134 specimens, 36 species.

Serpa; L. Agassiz. 2 specimens, 2 species.

José Assu; L. Agassiz. 20 specimens, 9 species.

Ceará; L. Agassiz. 2 specimens.